Change Sheet
Upper Santa Clara River Chloride TMDL
October 24, 2002

Document	Page No.	Description of Change and Justification
Resolution	11-10	Revised Finding #8 to clarify the reach description of the Upper Santa Clara River: 8. The Santa Clara River is located in Los Angeles and Ventura Counties, California. The proposed TMDL addresses documented chloride water quality impairments in Reach 5 (EPA 303(d) list Reach 7) and Reach 6 (EPA303(d) list Reach 8) of the Santa Clara River that are located upstream of the United States Geological Survey Blue Cut Gauging Station near the Los Angeles/Ventura County line.
Resolution	11-10	Revised Finding #9 to clarify the reach description of the Upper Santa Clara River and the Board Action of December 7, 2000: 9. The Regional Board's goal in establishing the above-mentioned TMDL is to restore and maintain the agricultural supply (AGR) and groundwater recharge (GWR) beneficial uses of the Santa Clara River as established in the Basin Plan. Literature studies have documented a relationship between agricultural supply water quality and chloride concentration. At a public hearing on December 7, 2000, the Regional Board considered modifying the water quality objective for chloride of 100 mg/L above the Blue Cut Gauging Station in Reach 5 (EPA 303(d) list Reach 7) and Reach 6 (EPA303(d) list Reach 8). The Regional Board maintained the water quality objective of 100 mg/L (measured instantaneously).
Amendment, Table 7-6.1. Problem Statement	11-13	Revised the Problem Statement to clarify the reach description of the Upper Santa Clara River: Elevated chloride concentrations are causing impairments of the water quality objective in Reach 5 (EPA 303(d) list Reach 7) and Reach 6 (EPA 303(d) list Reach 8) of the Santa Clara River. This objective was set to protect all beneficial uses; agricultural beneficial uses have been determined to be most sensitive and are not currently attained at the downstream end of Reach 5 (EPA 303(d) list Reach 7) and Reach 6 (EPA 303(d) list Reach 8) in the Upper Santa Clara River. Irrigation of

		salt sensitive crops such as avocados and strawberries with water containing elevated levels of chloride results in reduced crop yields. Chloride levels in groundwater are also rising.
Amendment, Table 7-6.1. "Numeric Target"	11-13	Revised this section to clarify that the numeric target is based on the existing water quality objective for chloride. The revision also clarifies that the Regional Board will review the Phase I studies of the Implementation Plan to consider a Basin Plan Amendment to revise the water quality objective. This TMDL has a numeric target, expressed as a chloride concentration, required to attain the water quality objective and protect agricultural supply beneficial use. These objectives are set forth in Chapter 3 of the Basin Plan. The numeric target for this TMDL pertains to Reaches 5 and 6 of the Santa Clara River and is based on achieving the existing water quality objective of 100 mg/L, measured instantaneously, throughout the impaired reaches. A subsequent Basin Plan amendment will be considered by the Regional Board to adjust the chloride objective based on technical studies about the chloride levels, including levels that are protective of salt sensitive crops, chloride source identification, and the magnitude of assimilative capacity in the upper reaches of the Santa Clara River. .
Amendment, Table 7-6.1 "Source Analysis"	11-13	Revised this section to clarify that the principal source of chloride to the Upper Santa Clara River is from the Saugus and Valencia WRPs: The principal source of chloride into Reaches 5 and 6 of the Santa Clara River is discharges from the Saugus Water Reclamation Plant (WRP) and Valencia WRP, which are estimated to contribute 70% of the chloride load in Reaches 5 and 6.
Amendment, Table 7-6.1 "Linkage Analysis"	11-14	Revised this section to clarify that the TMDL will include a hydrological study to complement the Linkage Analysis as part of the Phase I studies: Linkage between chloride sources and the in-stream water quality was established through a statistical analysis of the WRP effluent and water quality data at Blue Cut and Highway 99. The analysis shows that additional assimilative capacity is usually added to Reaches 5 and 6 from groundwater discharge, but the magnitude of the assimilative capacity is not well quantified. Consequently, the Implementation Plan includes a hydrological study (Surface Water/Groundwater Interaction) of the upper reaches of the Santa Clara River.
Amendment, Table 7-6.1 "Waste Load	11-14	Revised this section to clarify that TMDL waste load allocations are expressed as concentrations..

"Waste Load Allocations"		The numeric target is based on the water quality objective for chloride. The proposed waste load allocations (WLAs) are 100 mg/L for Valencia WRP and 100 mg/L for Saugus WRP. The waste load allocations are expressed as a concentration limit derived from the existing WQO, thereby accommodating future growth. Other NPDES discharges contribute a minor chloride load.. The waste load allocation for these point sources is 100 mg/L.
Load Allocation *(for non point sources)*	11-14	Language is added to clarify load allocations for nonpoint sources: "The source analysis indicates nonpoint sources are not a major source of chloride. The load allocations for these nonpoint sources is 100 mg/L."
Amendment, Table 7-6.1 "Implement-ation"	11-14	Refer to Table 7-6.2 The implementation plan proposes that during the period of TMDL implementation, compliance for the WRP effluent will be evaluated in accordance with interim limits based on 2000 - 2001 performance (*i.e.*effluent chloride concentration at the Valenica and Saugus WRPs). Using the USEPA protocol described in Table 5-1 of the Technical Support Document for Water Quality-based Toxics Control (USEPA, 1991), the average monthly interim limits are 200 mg/L and 187 mg/L, and the maximum daily limits are 218 mg/L and 196mg/L for the Saugus and Valencia WRPs, respectively.
Margin of Safety	11-14	An implicit margin of safety is incorporated through conservative model assumptions and statistical analysis.
Amendment, Table 7-6.1 "Seasonal Variations and Critical Conditions"	11-15	Language revised to clarify that hydrological studies are to be included in the Implementation Plan: "Three critical conditions are identified for this TMDL. The driest six months of the year is the first critical condition for chloride because less surface flow is available to dilute effluent discharge, pumping rates for agricultural purposes are higher, groundwater discharge is less, poorer quality groundwater may be drawn into the aquifer and evapotranspiration effects are greater in warm weather. During drought, the second critical condition, reduced surface flow and increased groundwater extraction continues through several seasons with greater impact on groundwater resource and discharge. The third critical condition is based on the recent instream chloride concentration increases such as those that occurred in 1999, a year of average flow, when 9 of 12 monthly averages exceeded the objective. Data from all three critical conditions were used in the statistical model described Hydrological modeling will be completed to evaluate whether additional loading will impact the WQO or beneficial uses during non-critical

		conditions.”
Amendment, Table 7-6.2	11-15A – 11-15B	Revised Implementation Plan to clarify that Regional Board will consider results Phase I studies in a Public Hearing and to clarify conditions for alternative water supply requirements.
Staff Report		To be completed pending Regional Board hearing.